

<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>		ATTORNEY'S DOCKET NUMBER <b>421/67 PCT/US</b>
		U.S. APPLICATION NO. (If known, see 37 CFR 1.5) <b>10/520341</b>
INTERNATIONAL APPLICATION NO. <b>PCT/US03/21094</b>	INTERNATIONAL FILING DATE <b>07 July 2003 (7.07.2003)</b>	PRIORITY DATE CLAIMED <b>05 July 2002 (5.07.2002)</b>
TITLE OF INVENTION PURIFIED AND ISOLATED HEPARAN SULFATE 3-O-SULFOTRANSFERASE ISOFORM 5 NUCLEIC ACIDS AND POLYPEPTIDES AND THERAPEUTIC AND SCREENING METHODS USING SAME		
APPLICANT(S) FOR DO/EO/US University of North Carolina at Chapel Hill, et al.		

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a submission under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a submission under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ has been communicated by the International Bureau.
  - c. ☒ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☐ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☒ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

**Items 11 to 20 below concern document(s) or information included:**

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cc "Express Mail" mailing number EV 37240388605
13. ☐ A preliminary amendment. Date of Deposit January 5 2005
14. ☐ An Application Data Sheet under 37 CFR 1.76. I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
15. ☐ A substitute specification. Stacie H. Boswell
16. ☐ A power of attorney and/or change of address letter. Stacie H. Boswell
17. ☒ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825.
18. ☐ A second copy of the published International Application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: **Statement Regarding Identity of Copies of Sequence Listing**

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <div style="font-size: 24pt; font-weight: bold; text-align: center;">10/520341</div>		INTERNATIONAL APPLICATION NO. <div style="font-size: 18pt; font-weight: bold; text-align: center;">PCT/US03/21094</div>		ATTORNEY'S DOCKET NUMBER <div style="font-size: 18pt; font-weight: bold; text-align: center;">421/67 PCT/US</div>											
21. The following fees are submitted: <input checked="" type="checkbox"/> a) Basic national fee..... \$300.00 <input checked="" type="checkbox"/> b) Examination fee..... \$200.00 <input checked="" type="checkbox"/> c) Search fee..... \$500.00 <div style="text-align: right; font-weight: bold;">TOTAL OF ABOVE CALCULATIONS = \$1000.00</div>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:50%;">Applicant use</th> <th style="width:50%;">Office use only</th> </tr> <tr> <td>\$ 300.00</td> <td></td> </tr> <tr> <td>\$ 200.00</td> <td></td> </tr> <tr> <td>\$ 500.00</td> <td></td> </tr> <tr> <td>\$ 1,000.00</td> <td></td> </tr> </table>		Applicant use	Office use only	\$ 300.00		\$ 200.00		\$ 500.00		\$ 1,000.00	
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<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.															
Total Sheets	Extra sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE												
0 - 100 =	-100 /50 =		x \$250.00												
Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">0.00</td> </tr> </table>		\$	0.00								
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CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE												
Total claims	60 - 20 =	40	x \$50.00	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">2,000.00</td> </tr> </table>		\$	2,000.00								
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Independent claims	9 - 3 =	6	x \$200.00	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">1,200.00</td> </tr> </table>		\$	1,200.00								
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			+	\$360.00	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">0.00</td> </tr> </table>	\$	0.00								
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MULTIPLE DEPENDENT CLAIM(S) (if applicable)				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">4,200.00</td> </tr> </table>		\$	4,200.00								
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<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">2,100.00</td> </tr> </table>		\$	2,100.00								
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Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">0.00</td> </tr> </table>		\$	0.00								
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Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">0.00</td> </tr> </table>		\$	0.00								
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TOTAL NATIONAL FEE =				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">\$</td> <td style="width:50%;">2,100.00</td> </tr> </table>		\$	2,100.00								
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Amount to be charged				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; background-color: #cccccc;"></td> <td style="width:50%;">\$</td> </tr> </table>			\$								
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a. ☐ A check in the amount of \$ \_\_\_\_\_ to cover the above fees is enclosed.

b. ☒ Please charge my Deposit Account No. 50-0426 in the amount of \$ 2,100.00 to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0426. A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**NOTE:** Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:

Arles A. Taylor, Jr.  
 Jenkins, Wilson & Taylor, P.A.  
 Suite 1400 University Tower  
 3100 Tower Boulevard  
 Durham, NC 27707  
 UNITED STATES OF AMERICA

Arles A. Taylor, Jr.

SIGNATURE

NAME

39,395

REGISTRATION NUMBER